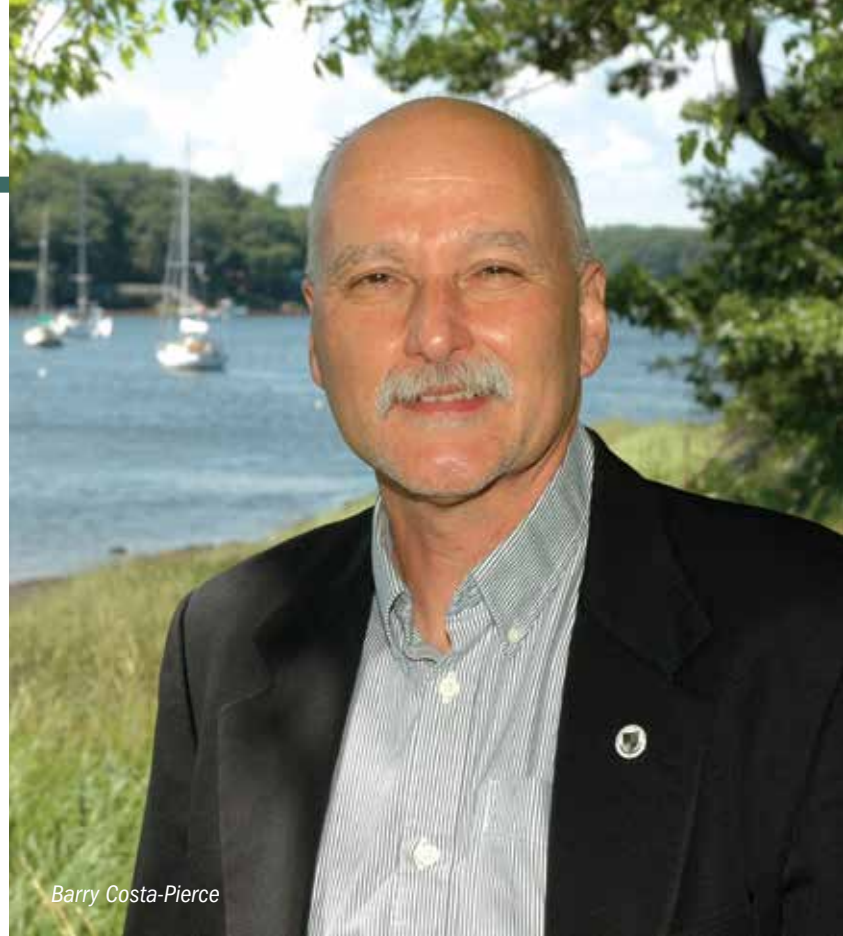


# A Sea Change at UNE

NEW MARINE SCIENCES LEADER  
BARRY COSTA-PIERCE AIMS TO  
EDUCATE UNE STUDENTS TO  
CREATE THE NEXT GENERATION  
OF JOBS ... NOT JUST FILL THEM



Barry Costa-Pierce

By Kathleen Taggersell

**B**arry Costa-Pierce's eyes light up when he talks about the future of marine sciences at UNE. As the new Henry L. & Grace Doherty Endowed Chair of Marine Sciences, director of the Marine Science Education and Research Center, and director of the Center for Land-Sea Interactions, Costa-Pierce has the energy, vision and experience to lead UNE into the exciting opportunities unfolding in this evolving field.

Costa-Pierce, who has a Ph.D. in oceanography from the University of Hawaii and an M.Sc. in zoology from the University of Vermont, is an internationally recognized marine sciences educator and researcher. He joined UNE in June 2012 after serving for 10 years as director of the Rhode Island Sea Grant College Program, where he led a diverse team of research, education and outreach professionals and managed over \$40 million of research funds. He also served concurrently as professor of fisheries and aquaculture at the University of Rhode Island.

In his role at UNE, Costa-Pierce plans to forge strategic partnerships with the coastal "innovation economy" while developing UNE's acclaimed undergraduate and graduate programs in marine coastal ecosystems. He enthusiastically believes an interdisciplinary approach to education

will create coastal leaders who will develop new coastal economies, contribute to marine environmental stewardship, social-ecological wisdom, global community and diversity, and human health and wellness.

He says, "We will educate and position UNE's marine science graduates for the next generation of opportunities in this burgeoning field, so they will not be simply looking for jobs, but rather creating them."

Costa-Pierce has lived and worked in over 20 nations in Asia-Pacific, Africa, Latin and South America on a wide range of ecological and social issues in marine and freshwater ecosystems, and in both industrial and community-based aquaculture and fisheries. He is the author of more than 150 publications in aquaculture, fisheries and aquatic ecosystems, and sustainability science, and is the international editor of *Aquaculture*, the top science journal in the field.

He is a fellow of both the American Association for the Advancement of Science and the American Institute of Fishery Research Biologists. Costa-Pierce is also chair-elect of the board of directors for the international charity, Aquaculture without Frontiers.

We recently spoke with Costa-Pierce to learn a little more about his background and vision.

“Our students will be working in the field from the beginning, so by the time they graduate they won’t just see what it takes to run a business, they will be able to think in an entrepreneurial manner and envision how they will create the next generation of jobs and services.” — Barry Costa-Pierce

**You have lived all over the world. What drew you to Maine and to UNE and its marine sciences program?**

Maine has the second-largest coastline in the United States after California. At this stage of my life, I wanted to work with a marine team and a university where we can make a real impact. Maine and UNE have all of the elements in place to do globally important work – not just in research, but in training the next generation of students and scholars to attack some of the daunting ocean problems we’re facing.

Maine is a microcosm of the planet. We’re not just a northern place. We have a southern coast, where UNE is based, that is undergoing massive change. We are in a transition zone from the Gulf of Maine to the Labrador Sea. Our Midcoast region has issues with the future of fisheries and the future of working waterfronts. The Downeast region has alarming economic issues; for that region, we need to create a vision for what a vibrant rural economy in the 21st century can look like.

We’re also close to the mountains and lakes, and with climate change, the land-sea interactions between watersheds, estuaries, and coastal oceans will be extremely important to understand and to communicate.

I have lived all over the world, yes, but I adore where I’m from – New England. And at the University of New England, I look forward to developing programs that are exciting and innovative, from Burlington to Bridgeport, from Lubec down to Narragansett.

**One of the priorities you have identified will be forging strategic partnerships with the coastal innovation economy. What do you mean by that?**

In most of America’s coastal states, including Maine, most of the economy resides in coastal counties. We spend a lot of time talking about the larger

issues of the marine economy and climate change, but often don’t dig in deep enough to look at the opportunities that are right in our midst.

For example, tourism is one of the largest contributors to our coastal economy. That presents many opportunities for UNE’s marine science research and outreach programs to engage with the tourist economy. A student graduating from UNE won’t just be studying dunes, beaches, marshes, but will also be interacting with the transportation officials and planners – who are deeply concerned about sea level rise and the threatened infrastructure up and down the coast – regarding what they can or cannot do, what they need to plan for, and how can they restore environments and preserve tourism while adding to our quality of life. We can use science-based knowledge to plan for the economic future of the coast.

**You’ve said UNE is positioning marine science graduates so they will not be simply looking for jobs, but rather creating them. Tell us about that.**

We have to consider first what skill sets our students must have. A marine science student must possess all of the traditional liberal arts skills needed for a job. They have to be really good communicators – to be able to write well, to know history, to deal with numbers. But we need to turn the marine science curriculum on its head. We will engage a range of institutions, people, entrepreneurs and philanthropists who want to take on UNE marine science students as interns from the start of their time here. Our students will be working in the field from the beginning, so by the time they graduate they won’t just have a knowledge base, they will also know what it takes to run a business, and they will be able to think in an entrepreneurial manner. I can envision UNE students studying marine animals, interacting with the whale watching and the fishing and

marine tourism industry, considering not just the animals but also the business challenges and the many legal, regulatory and other social issues

**What are some of the most pressing issues facing marine and freshwater ecosystems?**

Many people might expect a really dark response to this question, but I’m going to talk about some of the positive things. There is a lot to be incredibly proud of with recovery of some species. For example, the opening of the Penobscot River is a huge accomplishment, and in northern Maine there are active discussions about opening up the St. Croix River, which could recover vast alewife and herring resources, and help restore fisheries in the Gulf of Maine.

We have a local iteration of good news in the Saco River. Sturgeon – remarkable, charismatic prehistoric creatures that we thought were going to disappear from the planet – have come roaring back. The Saco River is the most biodiverse of any estuary in Maine. What’s going on here? Is it the management regime...is it the water quality...is it the protection of various habitats? UNE is in the midst of these issues right outside our door, so there are an incredible number of opportunities for us to pull together in a multidisciplinary way to create an understanding of why this is happening, and to translate that knowledge to others.

I call this “we can have our cake and eat it, too” planning for science. For example, by restoring fisheries, we can harvest the interest of natural capital rather than dig into our core investment; if we get the science right, we can begin to recover the natural bounty out there. In Maine, we have a chance show the rest of the world that we can do this in a more sustainable manner, and especially so if we can find alliances between universities, tourism and other marine industries. ■